August 17, 2010

Mr. Dan McCaskill, CIH
BNSF Railway Company
2600 Lou Menk Drive
Fort Worth, TX 76161

Re: BNSF Asbestos Exposure Sampling Report
Stimson Wye Track Removal
BNSF Kootenai River Subdivision- Milepost 1319.41 to East End 3rd Street Terminus
EPA Operable Unit 6
May 3-7, 2010
EMR Project No. 9329-001

Dear Mr. McCaskill:

EMR, Inc. (EMR) was contracted by the BNSF Railway Company (BNSF) to conduct Asbestos Exposure Sampling during demolition of track from east end of Libby Yard toward Stimson Lumber Yard, known as Stimson Wye. The primary purpose of this Asbestos Exposure Sampling event was to gather sufficient and representative air quality data to determine whether asbestos fiber releases were being created by track maintenance activities. This data allows BNSF Industrial Hygiene to determine worker exposure risk and whether current engineering controls and prescribed personal protective equipment are sufficient to protect BNSF workers. A secondary function of this sampling event was to collect air quality data from near the BNSF property boundary (stationary air samples).

The track demolition area lies within the United States Environmental Protection Agency (EPA)-defined Operable Unit 6 (OU6), which is the designation for BNSF-owned property that may have been impacted by the loading and hauling of asbestos contaminated vermiculite. OU6 is roughly centered on Libby, Montana (MP 1319.5) and extends east to approximately MP 1301 and west to approximately MP 1341 (Figure 1). More specifically, work occurred along a two-track industrial spur within the BNSF right-of-way located near BNSF Milepost (MP) 1319.41 and extended across two parallel track spurs to the East End terminus of 3rd Street (Figure 2). Work consisted of the disassembly and removal of approximately 2,115 feet of track and final grading. Steel components were removed for recycling and the ties were stockpile on-site for later disposal. The rails and other steel components were dismantled and removed by BNSF contractors Steel, Etc. and Patrick Construction (Contractors). A BNSF equipment operator assisted the Contractors by moving materials with a front end loader. Following removal of the steel components, the BNSF equipment operator removed, transported and stockpiled the wooden ties.

Potential worker hazards within OU6 consist of the potential disturbance of previously-deposited tremolite and related mineral fibers during rail maintenance activities. Asbestos fibers within the track structure are associated with rail transport of W.R. Grace vermiculite ore or

processed Zonolite shipped on this line through approximately 1990, the date of the mine closure.

ON-SITE PERSONNEL

EMR employee David Welch was mobilized to the Site to conduct the sampling effort. No EPA or CDM personnel were present at any time during sampling activities.

SAMPLING OVERVIEW

EMR mobilized to Libby, Montana on May 2, 2010 and sampling was conducted on May 3 through May 5 and May 7, 2010. During the sampling event two types of samples were collected: 1) personal air samples; and 2) stationary air samples. Personal air samples were collected only from BNSF workers that were associated with the project. Stationary air samples were collected from representative locations within the BNSF right of way.

The methods and equipment used to collect these samples is discussed below.

SAMPLING METHODS AND EQUIPMENT

Personal Air Sample Collection

The personal air sampling program utilized Gillian BDX II personal air pumps with flow rates varying from 2.3 L/m to 3.2 L/m. Flow rates were checked at the beginning and end of the sampling period with a calibrated rotameter. The pumps were equipped with Zefon 25mm Phase Contrast Microscopy (PCM) cassettes and 0.8 µm Mixed Cellulose Ester (MCE) filters, which were utilized for both PCM analysis by NIOSH 7400 and Transmission Electron Microscopy (TEM) analysis by Asbestos Hazard Emergency Response Act (AHERA) methods. All samples were submitted for AHERA TEM analysis by EMSL Analytical Inc.'s (EMSL) Libby, Montana laboratory. A total of 3 personal air samples were collected with one sample being collected per day on May 4, 5 and 7.

Stationary Air Sample Collection

Stationary air samples were collected using EMS Megalite high-volume air pumps equipped with Zefon 25mm PCM cassettes with 0.8 µm MCE filters. The high volume air pumps were powered by portable generators. The filters were suspended approximately four (4) feet above ground surface with the filter opening facing downward to prevent the deposition of foreign material on the filter. The high volume air pumps were checked and adjusted daily to achieve flow rates between 7.5 and 8.0 L/m as determined with a calibrated rotameter. All stationary air samples were submitted to EMSL for AHERA TEM analysis. A total of ten (10) stationary air samples were collected, however one (1) sample was not submitted for analysis due to the failure of a generator. Stationary air samples were collected on May 3rd, May 4th and May 7th.

Blank Collection

Sealed and open field blanks were collected on two of the four sampling days. Open blanks were collected by opening and resealing the filter cassette under normal sampling conditions. Sealed blanks were not opened prior to submission to the laboratory and serve to ensure that the sample cassettes were not contaminated prior to use. All blanks were submitted to EMSL, but only the blanks from May 5 were analyzed. The blanks from May 7 have been archived.

AHERA TEM analytical methods were chosen since they are widely applied to determine compliance with the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limit (PEL). The AHERA TEM method simply counts the number of fibers in known sample area that are greater than 5µm in length and through visual inspection at a magnification of 20,000. As per 40 CFR Chapter I – Part 763, the target sensitivity for this method is 0.005 s/cc.

Due to variable levels of filter loading, two of the samples required indirect preparation to facilitate TEM analysis. Indirect and indirect ashing preparation methods were employed on one perimeter sample (050710-2) and one personal sample (P-3) (Table 1). A brief description of each preparation process is described below.

Indirect Preparation

- Sample resuspended in 100mL particle water
- Fractions filtered (10, 15, 25 and 50mL) on 0.2 µm filter backed by 5.0 µm filter.
- Selected volume processed to grids

Indirect Preparation with Ashing

- Loose materials in cassette consolidated with overloaded filter were prepared for ashing;
- Samples placed in LFE asher until filters have been completely ashed;
- Ashed sample re-suspended in 100 mL particle water.
- Fractions filtered (10, 15, 25 and 50mL) on 0.2 µm filter backed by 5.0 µm filter.
- Selected volume processed to grids

Both indirect preparation methods require dilution that results in an increase of analytical sensitivity.

DAILY ACTIVITY

The following is a daily summary of sampling activities from May 3 to May 7, 2010. Attachments consist of an analytical summary table, site maps, photolog of work activities (Attachment A), air monitoring data sheets with PCM air monitoring results (Attachment B), and complete laboratory reports and chain of custody forms from EMSL (Attachment C).

May 3, 2010

No personal air samples were collected on this day since no BNSF personnel were working within the work activity area. Steel, Etc. was on-site pulling spikes and plates from two tracks within the work area. Three fixed perimeter samples were collected and labeled stations #1 through #3 with sample IDs of 050310-1, 050310-2 and 050310-3. These samples were considered representative of conditions along the entire length of the work area.

May 4, 2010

One personal sample was collected from a BNSF employee that assisted in pickup of spikes and plates:

Tom Long	Loader Operator	BNSF Employee #4876306

Contractor personnel from Steel, Etc. and Patrick Construction were picking up spike and tie plate debris and placing the materials into the bucket of the BNSF loader. Contractor personnel were not sampled.

This work area extended between approximately MP 1341.19 and the east end terminus of 3rd Street in Libby, Montana (Figure 1). All personal air samples were submitted to EMSL for TEM analysis. Three fixed perimeter samples were collected labeled stations #1 through #3 with sample IDs of 050410-1, 050410-2 and 050410-3 (Table 1). These samples were considered representative of work activity conditions along the entire length of the work area.

A fourth stationary sample (050410-4) was collected from Station #2 while a BNSF work gang was conducting routine maintenance on the mainline adjacent to the track removal work area. Mainline maintenance consisted of surfacing that used two machines; a tamper and a ballast regulator/broom. Dust from the surfacing maintenance moved through the track removal work area and the sample was collected in order to separate the two maintenance activities, in the event that asbestos fibers were detected in any of the samples. The surfacing maintenance, in the vicinity of the track removal work area, lasted approximately 30 minutes.

May 5, 2010

One (1) personal sample was collected for Tom Long, BNSF Loader Operator during pulling of rail across the entire work area extending between approximately MP 1341.19 and the east end terminus of 3rd Street in Libby, Montana (Figure 1).

No stationary air samples were collected on this day since activities consisted of moving and loading of rail, there was no soil disturbance and heavy rainfall was occurring.

May 7, 2010

One (1) personal sample was collected for Tom Long, BNSF Loader Operator (see above) during tie removal and grading of track bed across the entire work area extending between approximately MP 1341.19 and the east end terminus of 3rd Street in Libby, Montana (Figure 1).

Three stationary samples were collected and labeled stations #3 through #5 with sample IDs of 050710-1, 050710-2 and 050710-3. These samples are considered representative of work activity conditions along the entire length of the work area. Station #5 had a malfunctioning generator; thus, the 050710-3 sample was not submitted for analysis.

Although a water truck was utilized, two samples were overloaded and had to be analyzed after indirect preparation. These samples corresponded to the personal sample P-3, and sample 050710-2 from Station #4.

Soil Observations

EMR observed soil conditions during tie removal and no visible vermiculite was observed in work area, except for a limited zone approximately 25' long by 8' wide (Figure 2). The location of the observed vermiculite appears to be adjacent to a soil removal project that occurred in November 2005. This project focused on the removal of vermiculite impacted soils from between the two wye tracks and south of the southern wye track (Figure 2). Soil was not removed from beneath the track since a four-point composite soil sample (BN-20006 - October 2005), did not indicate the presence of asbestos beneath the tracks. Records indicate that the sample BN-20006 is collocated with the vermiculite observed during the track removal.

SAMPLING RESULTS

The following is a discussion of the results of laboratory analysis of each sample type. Laboratory reports and chain-of-custody forms are found in Attachment C.

Personal Air Samples

A total of three (3) personal air samples were collected and submitted for TEM analysis. All samples were non-detect for asbestos fibers (Table 1). Of the three (3) samples, one sample (P-3) was indirectly prepared, which increased the analytical sensitivity above the target sensitivity (0.005 s/cc).

Stationary air Air Samples

A total of ten (10) stationary air samples were collected and nine (9) were analyzed (Table 1). All nine (9) samples showed no detectable concentrations of asbestos fibers. One (1) of the nine (9) samples was overloaded and read after indirect preparation but showed no detectable asbestos fibers (Table 1).

Blanks

A total of four field blanks were submitted for TEM analysis with instructions to test only if Libby Amphibole (LA) was detected on any of the personal or stationary air samples. Though no LA was detected, two samples from May 5, 2010 were analyzed. Both blank samples OB and SB showed no detectable structures (Table 1).

EMR sincerely appreciates the opportunity to assist you on this project. If you have any questions, please call either David L. Welch at (425) 861-4561, ext. 11 or me at (218) 625-2332.

Sincerely,
EMR, Inc.,

Scott Carney PG, CHMM
Project Manager

C: D. Smith – BNSF

Att: Tables
Figures
Attachment A – Project Photolog
Attachment B– Air Monitoring Data Sheets
Attachment C – EMSL Laboratory Reports and Chain of Custody Forms

TABLES

TABLE 1 Air Data Summary
Stimson Wye Track Removal
Libby, Montana
EMR Project Number 9329-001

Personal Air Sample Results

Sample ID	Date	Description	Activity	Asbestos Types	Result (s/cc)
P-1	5/4/2010	Tom Long, Loader Operator, BSNF # 4876306	Remove Spikes and Plates	Not detected	<0.0046
P-2	5/5/2010	Tom Long, Loader Operator, BSNF # 4876306	Remove Rail	Not detected	<0.0057
P-3*	5/7/2010	Tom Long, Loader Operator, BSNF # 4876306	Remove Ties/Grade Rail Bed	Not detected	<0.0210

*=Sample overloaded; indirect preparation conducted.

Stationary Air Samples

Sample ID	Date	Description	Activity	Asbestos Types	Result (s/cc)
050310-1	5/3/2010	Property Boundary Sample Station #1	Remove Spikes and Plates	Not detected	<0.0041
050310-2	5/3/2010	Property Boundary Sample Station #2	Remove Spikes and Plates	Not detected	<0.0039
050310-3	5/3/2010	Property Boundary Sample Station #3	Remove Spikes and Plates	Not detected	<0.0040
050410-1	5/4/2010	Property Boundary Sample Station #1	Remove Spikes and Plates	Not detected	<0.0020
050410-2	5/4/2010	Property Boundary Sample Station #2	BNSF Maint on Mainline	Not detected	<0.0050
050410-3	5/4/2010	Property Boundary Sample Station #3	Remove Spikes and Plates	Not detected	<0.0019
050410-4	5/4/2010	Property Boundary Sample Station #2	Remove Spikes and Plates	Not detected	<0.0029
050710-1	5/7/2010	Property Boundary Sample Station #3	Remove Ties/Grade Rail Bed	Not detected	<0.0019
050710-2*	5/7/2010	Property Boundary Sample Station #4	Remove Ties/Grade Rail Bed	Not detected	<0.0080
050710-3	5/7/2010	Property Boundary Sample Station #5	Remove Ties/Grade Rail Bed	NA	NA

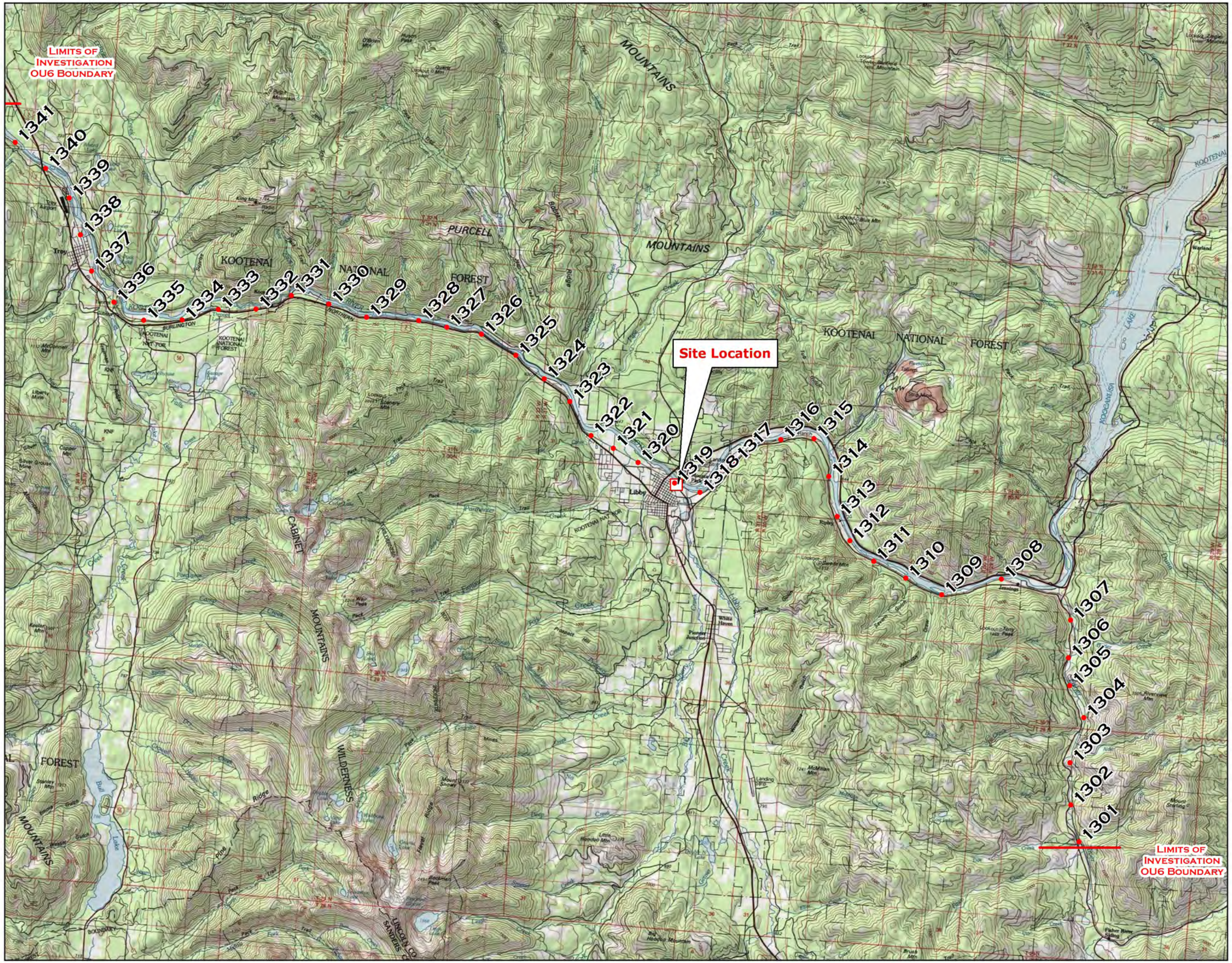
NA-Not Available; generator malfunction; sample voided.

*=Sample overloaded; indirect preparation conducted.

QA/QC Blanks

Sample ID	Date	Description	Activity	Asbestos Types	Result (s/cc)
SB	5/5/2010	Sealed Blank	Remove Rail	Not detected	<0.0057
OB	5/5/2010	Open Blank	Remove Rail	Not detected	<0.0057
SB	5/7/2010	Sealed Blank	Remove Ties/Grade Rail Bed	Not Analyzed	Not Analyzed
OB	5/7/2010	Open Blank	Remove Ties/Grade Rail Bed	Not Analyzed	Not Analyzed

FIGURES



N

W E

S

Figure 1
Site Location
Topographic Map

EPA Operable Unit 6
BNSF Kootenai River Sub
Stimson Wye MP 1319.41
to East End 3rd Street Terminus
Libby, MT

BNSF Asbestos
Exposure Sampling Report

Legend

- Approximate Milepost Locations

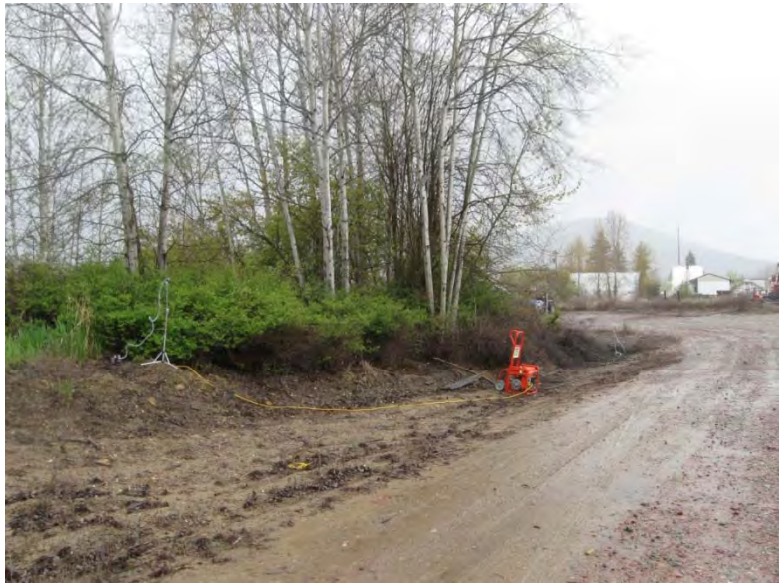
0 6,250 12,500 25,000
Scale In Feet

Project Number: 9329-001
Date: July 28, 2010
Drafted By: AJL
Reviewed By: SJC
Reference: ESRI World Imagery

EMR INCORPORATED
INFRASTRUCTURE AND ENVIRONMENT
11 E. Superior St. Suite #260
Duluth, MN 55802
Phone: 218.625.2332
Fax:218.625.2337

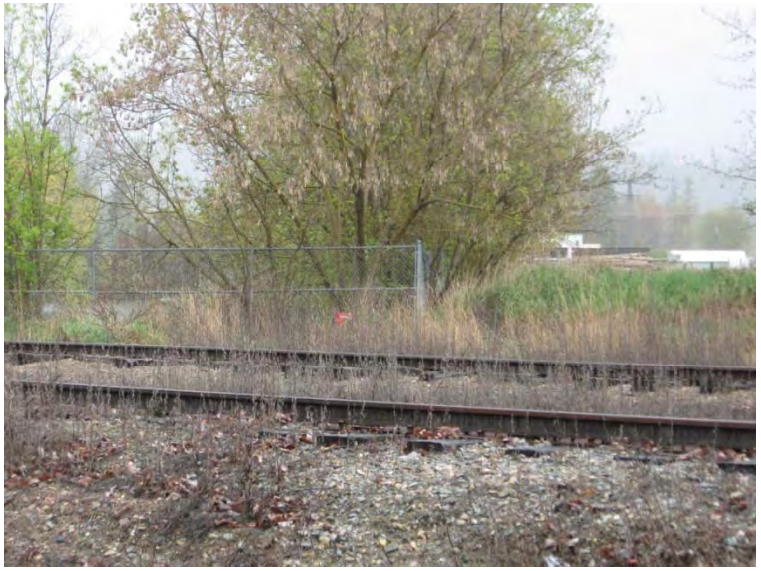
ATTACHMENT A

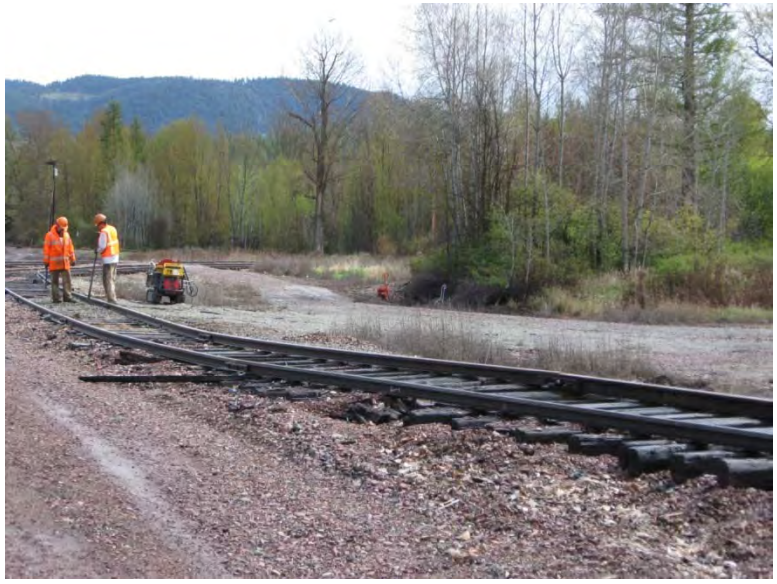
Project Photolog



Air Stations #1 (r) and #2 (l)

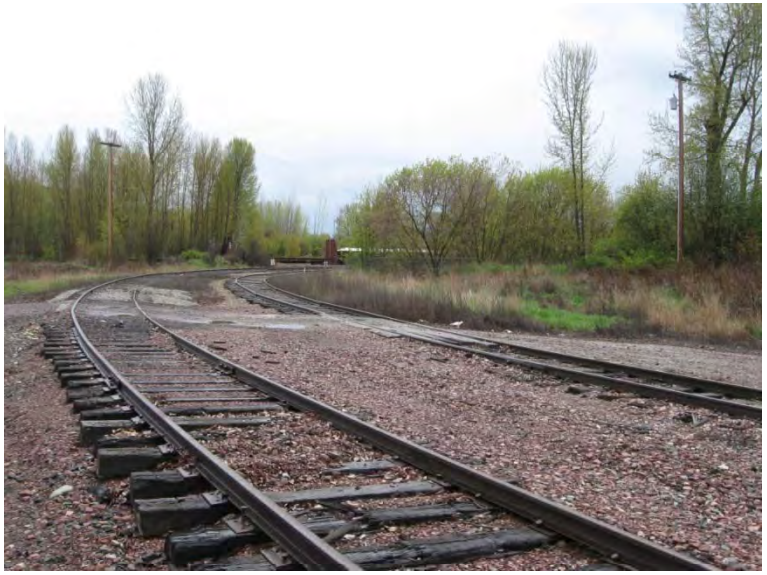
Air Station #3 off chain link fence





Contractor gang removing spikes and plates

View looking South around curve toward Stimson Lumber, both track structures were removed



EMR INCORPORATED

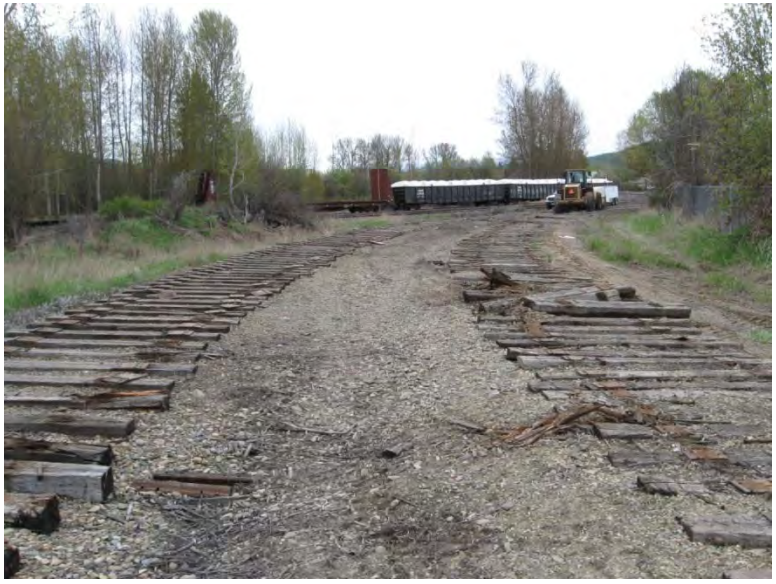
EMR Project No. 9329-001

BNSF OSHA Exposure Monitoring Report
Kootenai River Sub: Stimson Wye MP 1319.41
to East End 3rd Street Terminus, Libby, MT

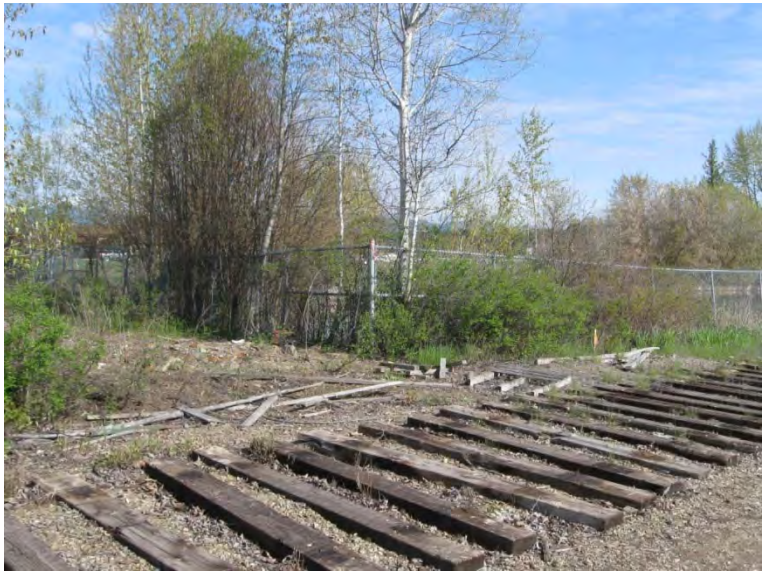
PHOTOLOG
(Page 1 of 3)

BNSF maintenance activity on mainline, unrelated to Stimson Wye work (May 4, 2010)

View looking north from 3rd Street



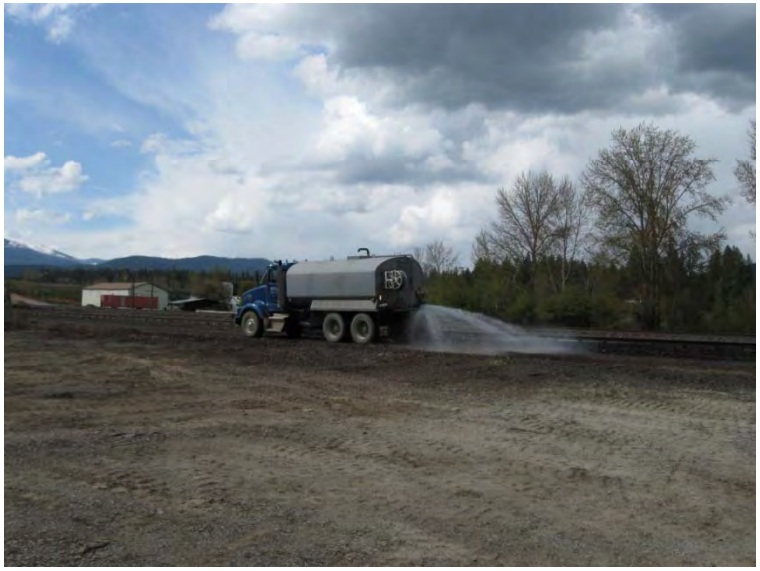
BNSF Loader Operator Tom Long in background, track removed prior to tie removal



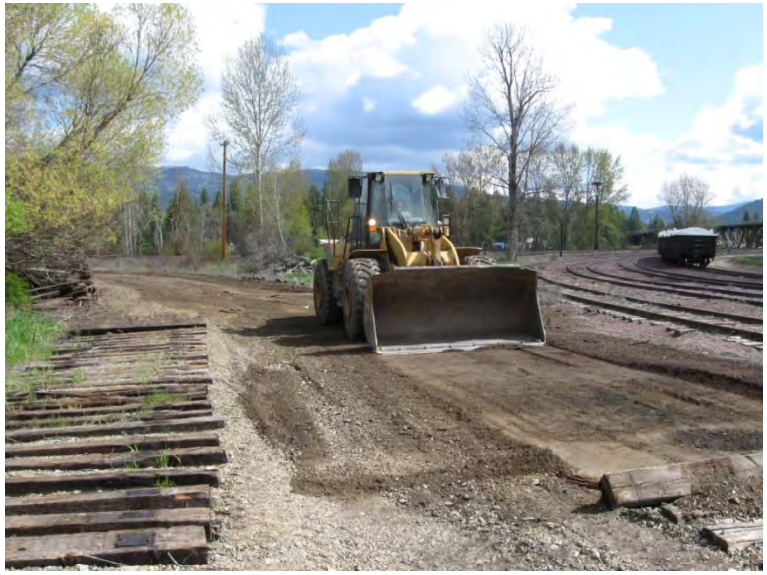
Air Station #5 on S. Side of Pond (generator failed)

EMR INCORPORATED EMR Project No. 9329-001	**BNSF OSHA Exposure Monitoring Report Kootenai River Sub: Stimson Wye MP 1319.41 to East End 3rd Street Terminus, Libby, MT**	**PHOTOLOG (Page 2 of 3)**

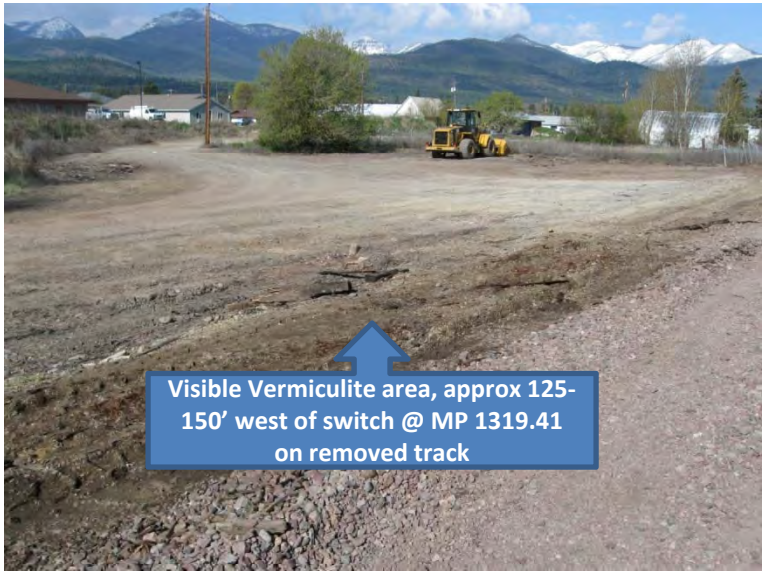
BNSF operator Tom Long removing ties (May 7, 2010)



Water Truck use for dust control (May 7, 2010)



BNSF Loader Operator Tom Long grading following tie removal



Discovered hot spot of visible vermiculite on removed track area as noted.

ATTACHMENT B

Air Monitoring Data Sheets

Personal Air Sample Data
BNSF Kootenai River Subdivision
OSHA Sampling

Date: **5-4 through 5-7-2010** Work Area Mileposts: **Libby Stimson Wye**

Sampled Person's Name:	**Tom Long**	**4-May-10**
BNSF Employee ID	**4876306**	
Job Title	**Loader/Operator**	
Machine Type/Name	**Front End Loader**	
Pump Number	**#1**	
Sample #	**P-1**	
Starting Flow Rate	**3.2**	
Sample Start Time	**8:20**	
Ending Flow Rate	**3.2**	
Sample End Time	**16:40**	
Sample Volume	**1600 liters**	

Sampled Person's Name:	**Tom Long**	**5-May-10**
BNSF Employee ID	**4876306**	
Job Title	**Loader/Operator**	
Machine Type/Name	**Front End Loader**	
Pump Number	**#2**	
Sample #	**P-2**	
Starting Flow Rate	**2.8**	
Sample Start Time	**9:28**	
Ending Flow Rate	**2.6**	
Sample End Time	**12:05**	
Sample Volume	**424 liters**	

Sampled Person's Name:	**Tom Long**	**7-May-10**
BNSF Employee ID	**4876306**	
Job Title	**Loader/Operator**	
Machine Type/Name	**Front End Loader**	
Pump Number	**#4**	
Sample #	**P-3**	
Starting Flow Rate	**2.5**	
Sample Start Time	**7:45**	
Ending Flow Rate	**2.3**	
Sample End Time	**16:45**	
Sample Volume	**1296 liters**	

Sampled Person's Name:	
BNSF Employee ID	
Job Title	
Machine Type/Name	
Pump Number	
Sample #	
Starting Flow Rate	
Sample Start Time	
Ending Flow Rate	
Sample End Time	
Sample Volume	

Stationary Air Sample Data
BNSF Kootenai River Subdivision
OSHA Sampling

Date: **5/3/2010** Work Area Mileposts: **Stimson Wye**

Approx MP of Sample Location		*1319.41*		
GPS Coords	N	*(UTM 5361083)*	W	
Receptor Present?	Y / **N**	If yes then describe:		
Samples Downwind?	**Y** / N	If no explain why:		
Pump Number		*#1*		
Sample #		*050310-1*		
Starting Flow Rate		*7.7*		
Sample Start Time		*1300 hrs*		
Ending Flow Rate		*7.5*		
Sample End Time		*1700*		
Sample Volume		*1824 liters*		

Approx MP of Sample Location		**1319.41**		
GPS Coords	N	**(UTM 5369071)**	W	
Receptor Present	Y / **N**	If yes then describe:		
Samples Downwind?	**Y** / N	If no explain why:		
Pump Number		*#2*		
Sample #		*050310-2*		
Starting Flow Rate		*8.0*		
Sample Start Time		*1305*		
Ending Flow Rate		*7.8*		
Sample End Time		*1705*		
Sample Volume		*1896 liters*		

Approx MP of Sample Location		*1319.41*		
GPS Coords	N	*(UTM 53691032)*	W	
Receptor Present	Y / **N**	If yes then describe:		
Samples Downwind?	**Y** / N	If no explain why:		
Pump Number		*#3*		
Sample #		*050310-3*		
Starting Flow Rate		*7.8*		
Sample Start Time		*1310*		
Ending Flow Rate		*7.6*		
Sample End Time		*1710*		
Sample Volume		*1848 liters*		

Notes: ***Tracks being removed are OLD, date range of 1901--1913. No personal samples today as there are no BNSF personnel working in area.***

Stationary Air Sample Data
BNSF Kootenai River Subdivision
OSHA Sampling

Date: **5/4/2010** Work Area Mileposts: **Stimson Wye**

Approx MP of Sample Location		*1319.41*		
GPS Coords	N	*(UTM 5361083)*	W	
Receptor Present?	Y /	**N**	If yes then describe:	
Samples Downwind?	**Y** /	N	If no explain why:	
Pump Number		*#1*		
Sample #		*050410-1*		
Starting Flow Rate		*7.5*		
Sample Start Time		*0830 hrs*		
Ending Flow Rate		*7.5*		
Sample End Time		*1640*		
Sample Volume		*3626 Liters*		

Approx MP of Sample Location		**1319.41**		
GPS Coords	N	**(UTM 5369071)**	W	
Receptor Present	Y /	**N**	If yes then describe:	
Samples Downwind?	**Y** /	N	If no explain why:	
Pump Number		*#2*		
Sample #		*050410-2*		
Starting Flow Rate		*7.8*		
Sample Start Time		*0835 hrs*		
Ending Flow Rate		*7.6*		
Sample End Time		*1110*		
Sample Volume		*1193.5 Liters*		

Approx MP of Sample Location		*1319.41*		
GPS Coords	N	*(UTM 53691032)*	W	
Receptor Present	Y /	**N**	If yes then describe:	
Samples Downwind?	**Y** /	N	If no explain why:	
Pump Number		*#3*		
Sample #		*050410-3*		
Starting Flow Rate		*8.0*		
Sample Start Time		*1840*		
Ending Flow Rate		*7.8*		
Sample End Time		*1655*		
Sample Volume		*3910.5 liters*		

Notes: ***Note: Sample 050510-2 prior to and during BNSF Maintenance Work (ballast sweeping) on mainline. Sample 050510-4 is after completion of BNSF Maintenance Work on mainline.***

Stationary Air Sample Data
BNSF Kootenai River Subdivision
OSHA Sampling

Date: **5/4/2010** Work Area Mileposts: **Stimson Wye**

Approx MP of Sample Location		***1319.41***	
GPS Coords	N	***(UTM 5361083)***	W
Receptor Present?	Y / **N**	If yes then describe:	
Samples Downwind?	**Y** / N	If no explain why:	
Pump Number		***#2***	
Sample #		***050410-4***	
Starting Flow Rate		***7.8***	
Sample Start Time		***1110***	
Ending Flow Rate		***7.6***	
Sample End Time		***1640***	
Sample Volume		***2541 liters***	

Approx MP of Sample Location			
GPS Coords	N		W
Receptor Present	Y / N	If yes then describe:	
Samples Downwind?	Y / N	If no explain why:	
Pump Number			
Sample #			
Starting Flow Rate			
Sample Start Time			
Ending Flow Rate			
Sample End Time			
Sample Volume			

Approx MP of Sample Location			
GPS Coords	N		W
Receptor Present	Y / N	If yes then describe:	
Samples Downwind?	Y / N	If no explain why:	
Pump Number			
Sample #			
Starting Flow Rate			
Sample Start Time			
Ending Flow Rate			
Sample End Time			
Sample Volume			

Notes: ***Note: Sample 050510-2 prior to and during BNSF Maintenance Work (ballast sweeping) on mainline. Sample 050510-4 is after completion of BNSF Maintenance Work on mainline.***

Stationary Air Sample Data
BNSF Kootenai River Subdivision
OSHA Sampling

Date: **5/7/2010** Work Area Mileposts: **Stimson Wye**

Approx MP of Sample Location		*1319.41*	
GPS Coords	N	*(UTM 5361032)*	W
Receptor Present?	Y / **N**	If yes then describe:	
Samples Downwind?	**Y** / N	If no explain why:	
Pump Number		*#1*	
Sample #		*050710-1*	
Starting Flow Rate		*8.5*	
Sample Start Time		*845*	
Ending Flow Rate		*8.1*	
Sample End Time		*1635*	
Sample Volume		*3901 liters*	

Approx MP of Sample Location		**1319.41**	
GPS Coords	N	**(UTM 5360993)**	W
Receptor Present	Y / **N**	If yes then describe:	
Samples Downwind?	**Y** / N	If no explain why:	
Pump Number		*#2*	
Sample #		*050710-2*	
Starting Flow Rate		*8.0*	
Sample Start Time		*1305*	
Ending Flow Rate		*7.8*	
Sample End Time		*1705*	
Sample Volume		*1896 liters*	

Approx MP of Sample Location		*1319.41*	
GPS Coords	N	*(UTM 5360913)*	W
Receptor Present	Y / **N**	If yes then describe:	
Samples Downwind?	**Y** / N	If no explain why:	
Pump Number		*#3*	
Sample #		*050710-3 (See below note)*	
Starting Flow Rate		*NA*	
Sample Start Time		*NA*	
Ending Flow Rate		*NA*	
Sample End Time		*NA*	
Sample Volume		*NA*	

Notes: ***Sample #050710-3 void because of generator malfunction.***

ATTACHMENT C

EMSL Laboratory Reports and Chain of Custody Forms

INTERNAL CHAIN OF CUSTODY

5/5/2010 1:25:45 PM

Order ID: 271000179

Attn: Scott Carney
EMR, Inc.
11 East Superior Street
Suite 260
Duluth, MN 55802

Fax: (218) 625-2337 Phone: (218) 625-2332

Project: **9329-002**
Samples collected 5/3,4,5/2010

Customer ID: EMRI78
Customer PO:
Received: 05/05/10 12:45 PM

EMSL Order: 271000179
EMSL Proj ID: BNSF 2010
Cust COC ID

Test: TEM AHERA **Matrix** Air **TAT:** 2 Week **Qty:** 11

Acct Sts: **SIsprsn:** rdemalo **Logged:** rpescador **Date:** 5/5/2010

BillingFrequency:

Sample Condition: ☐ Acceptable ☐ Unacceptable

Comments

☐ Exempt from prep charge
☐ Exempt from lab opening fee
☐ Exempt from layer/aliquot charges

Prepped: _____ **Date:** 5/5/10
Analyzed: _____ **Date:** 5/11/10
Data Entry: _____ **Date:** _____
Screened: _____ **Date:** _____
Mailed: _____ **Date:** _____

Special Instructions

Internal Comment

Order ID	Lab Sample #	Cust. Sample #	Location	Due Date
271000179	271000179-0001	050310-1 (RS)		5/19/2010 12:45:00 PM
271000179	271000179-0002	050310-2		5/19/2010 12:45:00 PM
271000179	271000179-0003	050310-3		5/19/2010 12:45:00 PM
271000179	271000179-0004	050410-1		5/19/2010 12:45:00 PM
271000179	271000179-0005	050410-2		5/19/2010 12:45:00 PM
271000179	271000179-0006	050410-3		5/19/2010 12:45:00 PM
271000179	271000179-0007	050410-4		5/19/2010 12:45:00 PM
271000179	271000179-0008	P1		5/19/2010 12:45:00 PM
271000179	271000179-0009	P2		5/19/2010 12:45:00 PM
271000179	271000179-0010	SB		5/19/2010 12:45:00 PM
271000179	271000179-0011	OB		5/19/2010 12:45:00 PM

RS 2710 EMR-19 (C-F) 2710 EMR-AIC-20 (E-F)

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*): 271000179

EMSL ANALYTICAL, INC.
107 W. FOURTH ST.
LIBBY, MT 59923
PHONE: (406) 293-9066
FAX: (406) 293-7016

Company : EMR, Inc	**EMSL-Bill to:** ☒ Same ☐ Different If Bill to is Different note instructions in Comments** *Third Party Billing requires written authorization from third party*
Street: 11 E. Superior Street, Suite #260	
City: Duluth **State/Province: MN**	**Zip/Postal Code: 55802** **Country: USA**
Report To (Name): Scott Carney	**Fax #: (218) 625-2337**
Telephone #: (218) 625-2332 x 303	**Email Address: carney@emr-inc.com**
Project Name/Number: 9329-002	
Please Provide Results: ☐ Fax ☒ Email **Purchase Order:**	**U.S. State Samples Taken: Montana**

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☒ 72 Hour ☐ 96 Hour ☐ 1 Week ☒ 2 Week

**For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.*

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ **4-4.5hr TAT (AHERA only)**
- ☒ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: DAVID WELCH - EMR **Samplers Signature:** [signature]

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
050310-1	PERIMETER STATION # 1	1824 lit	5-3-10
050310-2	PERIMETER STATION # 2	1896 lit	5-3-10
050310-3	PERIMETER STATION # 3	1848 Lit	5-3-10
050410-1	PERIMETER STATION # 1	3626 Lit	5-4-10
050410-2	* PERIMETER STATION # 2	1194 Lit	5-4-10
050410-3	PERIMETER STATION # 3	3911 Lit	5-4-10
050410-4	PERIMETER STATION # 2	2541 Lit	5-4-10
P1	PERSONAL - TOM LONG - LOADER OPERATOR	1600 Lit	5-4-10

Client Sample # (s):

Total # of Samples:

Relinquished (Client): [signature] **Date:** 5-5-10 **Time:** 1245

Received (Lab): Kelly E Barnes EMSL **Date:** 5-5-10 **Time:** 1245

Comments/Special Instructions: * PULLED SAMPLE EARLY BECAUSE OF SWEEPER ACTIVITY ON MAINLINE

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number (*Lab Use Only*):

EMSL ANALYTICAL, INC.
107 W. FOURTH ST.
LIBBY, MT 59923
PHONE: (406) 293-9066
FAX: (406) 293-7016

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
P2	PERSONAL - Tom Long LOADER OPERATOR 7008 BA ZEFON LOT #	518 Lit	5-5-10
SB**	SEALED BLANK 18589 7008 BA	—	5-5-10
OB**	OPEN BLANK 11	—	5-5-10

***Comments/Special Instructions:**

** ANALYZE ONLY IF DETECTABLE — LIBBY AMPHIBOLE

Page ____ of ____ pages

EMSL Analytical, Inc.
107 West 4th Street, Libby, MT 59923
Phone: (406) 293-9066 Fax: Email: mobileasbestoslab@emsl.com

Attn: **Scott Carney**
EMR, Inc.
11 East Superior Street
Suite 260
Duluth, MN 55802

Fax: (218) 625-2337 Phone: (218) 625-2332
Project: **9329-002**
Samples collected 5/3,4,5/2010

Customer ID: EMRI78
Customer PO:
Received: 05/05/10 12:45 PM
EMSL Order: 271000179

EMSL Proj: BNSF 2010
Analysis Date: 5/11/2010

Sampling Date: 5/5/2010

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample / Location	Volume (Liters)	Area Analyzed (mm^2)	Non Asb	Asbestos Type(s)	# Structures ≥ 0.5µ < 5µ	# Structures ≥5µ	Analytical Sensitivity (S/cc)	Asbestos Concentration (S/mm^2)	Asbestos Concentration (S/cc)
050310-1 *271000179-0001*	1824.00	0.0520		None Detected			0.0041	**<19.00**	**<0.0041**
050310-2 *271000179-0002*	1896.00	0.0520		None Detected			0.0039	**<19.00**	**<0.0039**
050310-3 *271000179-0003*	1848.00	0.0520		None Detected			0.0040	**<19.00**	**<0.0040**
050410-1 *271000179-0004*	3626.00	0.0520		None Detected			0.0020	**<19.00**	**<0.0020**
050410-2 *271000179-0005*	1194.00	0.0650		None Detected			0.0050	**<15.00**	**<0.0050**
050410-3 *271000179-0006*	3911.00	0.0520		None Detected			0.0019	**<19.00**	**<0.0019**
050410-4 *271000179-0007*	2541.00	0.0520		None Detected			0.0029	**<19.00**	**<0.0029**
P1 *271000179-0008*	1600.00	0.0520		None Detected			0.0046	**<19.00**	**<0.0046**
P2 *271000179-0009*	518.00	0.1300		None Detected			0.0057	**<7.70**	**<0.0057**
SB *271000179-0010*		0.1300		None Detected				**<7.70**	

Analyst(s)

Roy Pescador (11)

R. K. Mahoney, Laboratory Manager
or other approved signatory

EMSL Analytical, Inc.
107 West 4th Street, Libby, MT 59923
Phone: (406) 293-9066 Fax: Email: mobileasbestoslab@emsl.com

Attn: **Scott Carney**
EMR, Inc.
11 East Superior Street
Suite 260
Duluth, MN 55802

Fax: (218) 625-2337 Phone: (218) 625-2332
Project: **9329-002**
Samples collected 5/3,4,5/2010

Customer ID: EMRI78
Customer PO:
Received: 05/05/10 12:45 PM
EMSL Order: 271000179

EMSL Proj: BNSF 2010
Analysis Date: 5/11/2010

Sampling Date: 5/5/2010

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	*Location*	*Volume (Liters)*	*Area Analyzed (mm^2)*	*Non Asb*	*Asbestos Type(s)*	*# Structures* ≥ 0.5μ < 5μ	*# Structures* ≥5μ	*Analytical Sensitivity (S/cc)*	*Asbestos Concentration (S/mm^2)*	*Asbestos Concentration (S/cc)*
OB			0.1300		None Detected					
271000179-0011									**<7.70**	

Analyst(s)

Roy Pescador (11)

R. K. Mahoney, Laboratory Manager
or other approved signatory

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0001
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Order ID 271000179

Sample ID: 050310-1
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	C4	ND								F B C M		
	C2	ND								F B C M		
2	C8	ND								F B C M		
	C10	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)	0											

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 1824

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: 0.013 mm²
GO Required: 4
GO Analyzed: 4

Grid Box # 2710 EMR-19 Row C Column 12
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. PRESADOR Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0002
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID **271000179**

Sample ID: 050310-2
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	H8									F B C M		
	H10									F B C M		
2	H3									F B C M		
	H1									F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)	0											

5/11/10

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 1896

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: 0.013 mm²
GO Required: 4
GO Analyzed: 4

Grid Box # 2710-EMR-19 Row C Column 3,4
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. PESCADOR Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0003
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179
Sample ID: 050310-3
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	G7	ND								F B C M		
	G9	ND								F B C M		
2	G8	ND								F B C M		
	G10	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)	0											

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 1848

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: 0.013 mm²
GO Required: 4
GO Analyzed: 4

Grid Box # 7710-EMR-19 Row C Column 5,6
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. PEBENDON Scope ZT-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0004
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179

Sample ID: 050410-1
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	H8	ND								F B C M		
	H10	ND								F B C M		
2	H7	ND								F B C M		
	H10	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)	0											

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 3626

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: 0.013 mm²
GO Required: 4
GO Analyzed: 4

Grid Box # 270-EMR-14 Row D Column 1,2
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. PRESCHOOK Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0005
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179

Sample ID: 050410-2
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	H6	NP								F B C M		
	H8	ND								F B C M		
	H10	ND								F B C M		
2	H4	ND								F B C M		
	H2	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)	0											

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 1194

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: 0.013 mm²
GO Required: ✓
GO Analyzed: ✓

Grid Box # 2710-EMR-19 Row D Column 3,4
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst K. PESCADOR Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0006
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179

Sample ID: 050410-3
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	B7	ND								F B C M		
	B5	ND								F B C M		
2	D5	ND								F B C M		
	D3	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)		0										

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 3911

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: 0.013 mm²
GO Required: 4
GO Analyzed: 4

Grid Box # 2710-2MR-19 Row D Column 5,6
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst K. PESCADOR Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0007
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179

Sample ID: 050410-4
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	H8	ND								F B C M		
	H10	ND								F B C M		
2	H5	ND								F B C M		
	H1	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)		0										

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 2541

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: 5,013 mm²
GO Required: 4
GO Analyzed: 4

Grid Box # 2110-EMR-19 Row 2 Column 1,2
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. PESCADOR Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0008
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179

Sample ID: P1
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	C4	ND								F B C M		
	C2	ND								F B C M		
2	C8	ND								F B C M		
	C10	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)	0											

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
TEM Voltage (kv): 100
Filter Size (mm): 25
Magnification (X): 19K
EFA (sq.mm): 385
Grid Opening Area: mm²0.093
Filter Pore Size (micron): 0.45
GO Required: 4
Sample Volume (L): 1600
GO Analyzed: 4

Grid Box # 2710-EMR-19 Row E Column 3,4
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst L. Pearson Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0009
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179

Sample ID: P2
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	D2	ND								F B C M		
	D4	ND								F B C M		
	D6	ND								F B C M		
	D8	ND								F B C M		
	D10	ND								F B C M		
2	E9	ND								F B C M		
	E7	ND								F B C M		
	E5	ND								F B C M		
	E3	ND								F B C M		
	E1	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)		0										

5/11/10

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L): 518

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: mm² 0.013
GO Required: 10
GO Analyzed: 10

Grid Box # 2710-EMR-19 Row E Column 56
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. Peterson Scope 27-2 Date 5/11/10

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0010
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID 271000179

Sample ID: SB
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	H2	ND								F B C M		
	H4	ND								F B C M		
	H6	ND								F B C M		
	H8	ND								F B C M		
	H10	ND								F B C M		
2	D9	ND								F B C M		
	D7	ND								F B C M		
	D5	ND								F B C M		
	D3	ND								F B C M		
	D1	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)		0										

5/11/16

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L):

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: mm² 0.013
GO Required: 10
GO Analyzed: 10

Grid Box # 2710-EMK-19 Row E Column 1,2
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. Escador Scope 27-2 Date 5/11/16

Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Lab ID: 271000179-0011
Client: EMR, Inc.
Address: 11 East Superior Street
Suite 260
Duluth, MN 55802

Project: BNSF 2010
9329-002
Samples collected 5/3,4,5/2010

Order ID ***271000179***

Sample ID: OB
Location:

Received: 05-May-10
TAT: 2 Week

Results Due
Wednesday, May 19, 2010
12:45 PM

Special Instructions

NSD = No Structures Detected Structure Types: { F = Fiber, B = Bundle, C = Cluster, M = Matrix }

Grid I.D.	G.O. I.D.	Structure Number	Non Asbestos	ED OBSERVATION Chrys	ED OBSERVATION Amphi	Sketch	LENGTH ≥ 0.5 µm < 5 µm	LENGTH ≥ 5 µm	WIDTH µm	Structure Type	SAED Negative Number	EDXA Chrys.,Amo., Etc.
1	C1	ND								F B C M		
	C3	ND								F B C M		
	C5	ND								F B C M		
	C7	ND								F B C M		
	C9	ND								F B C M		
2	C9	ND								F B C M		
	C7	ND								F B C M		
	C5	ND								F B C M		
	C3	ND								F B C M		
	C1	ND								F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
										F B C M		
(Total)		0										

Asbestos Fibers Present
- ☐ Chrysotile
- ☐ Anthophyllite
- ☐ Amosite
- ☐ Crocidolite
- ☐ Actinolite
- ☐ Tremolite

Nonasbestos Fibers Present
- ☐ (1) Gypsum
- ☐ (2) Glass
- ☐ (3) Cellulose
- ☐ (4) Organic Fibers
- ☐ (5) Fibers Containing

Filter Type: MCE
Filter Size (mm): 25
EFA (sq.mm): 385
Filter Pore Size (micron): 0.45
Sample Volume (L):

TEM Voltage (kv): 100
Magnification (X): 19K
Grid Opening Area: mm² 0.013
GO Required: 10
GO Analyzed: 10

Grid Box # 271000179-19 Row E Column 3,4
Filter Accepted for Analysis: ☑ Yes ☐ No
If no, reason for rejection:

Analyst R. PESCADOR Scope 27-2 Date 5/11/10

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Chain of Custody

EMSL Order Number *(Lab Use Only)*: 271000233

EMSL ANALYTICAL, INC.
107 W. FOURTH ST.
LIBBY, MT 59923
PHONE: (406) 293-9066
FAX: (406) 293-7016

Company : EMR, Inc	**EMSL-Bill to:** ☒ Same ☐ Different If Bill to is Different note instructions in Comments**
Street: 11 E. Superior Street, Suite #260	*Third Party Billing requires written authorization from third party*
City: Duluth / **State/Province: MN**	**Zip/Postal Code: 55802** / **Country: USA**
Report To (Name): Scott Carney	**Fax #: (218) 625-2337**
Telephone #: (218) 625-2332 x 303	**Email Address: carney@emr-inc.com**
Project Name/Number: 9329-002	
Please Provide Results: ☐ Fax ☒ Email / **Purchase Order:**	**U.S. State Samples Taken: Montana**

Turnaround Time (TAT) Options* – Please Check

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☒ 72 Hour ☐ 96 Hour ☐ 1 Week ☒ 2 Week

*For TEM Air 3 hours/6 hours, please call ahead to schedule.*There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.

PCM - Air
- ☐ NIOSH 7400
- ☐ w/ OSHA 8hr. TWA

PLM - Bulk (reporting limit)
- ☐ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)

Point Count
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)

Point Count w/Gravimetric
- ☐ 400 (<0.25%) ☐ 1000 (<0.1%)
- ☐ NYS 198.1 (friable in NY)
- ☐ NYS 198.6 NOB (non-friable-NY)
- ☐ NIOSH 9002 (<1%)

TEM – Air ☐ **4-4.5hr TAT (AHERA only)**
- ☒ AHERA 40 CFR, Part 763
- ☐ NIOSH 7402
- ☐ EPA Level II
- ☐ ISO 10312

TEM - Bulk
- ☐ TEM EPA NOB
- ☐ NYS NOB 198.4 (non-friable-NY)
- ☐ Chatfield SOP
- ☐ TEM Mass Analysis-EPA 600 sec. 2.5

TEM – Water: EPA 100.2
- Fibers >10µm ☐ Waste ☐ Drinking
- All Fiber Sizes ☐ Waste ☐ Drinking

TEM- Dust
- ☐ Microvac - ASTM D 5755
- ☐ Wipe - ASTM D6480
- ☐ Carpet Sonication (EPA 600/J-93/167)

Soil/Rock/Vermiculite
- ☐ PLM CARB 435 - A (0.25% sensitivity)
- ☐ PLM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - B (0.1% sensitivity)
- ☐ TEM CARB 435 - C (0.01% sensitivity)
- ☐ EPA Protocol (Semi-Quantitative)
- ☐ EPA Protocol (Quantitative)

Other:
- ☐

☐ **Check For Positive Stop – Clearly Identify Homogenous Group**

Samplers Name: **Samplers Signature:**

Sample #	Sample Description	Volume/Area (Air) HA # (Bulk)	Date/Time Sampled
050710-1	PERIMETER STATION #3	3901 LIT	5-7-10
050710-2	PERIMETER STATION #4	3441 LIT	5-7-10
~~050710-3~~	~~PERIMETER STATION #5~~ VOID	~~DLW 5-11-10~~	~~5-7-10~~
P#3 DLW 5-11-10	PERSONAL-TOM LONG REMOVE # STACK TIES	1296 LIT	5-7-10
SB 2*	SEALED BLANK	—	5-7-10
OB 2*	OPEN BLANK	—	5-7-10
			DLW 5-11-10

Client Sample # (s): - **Total # of Samples:** 6 5

Relinquished (Client): [signature] **Date:** 5-11-10 **Time:** 1200

Received (Lab): R.K Maloney **Date:** 5/12/10 **Time:** 1130

Comments/Special Instructions: * ANALYZE IF LIBBY AMPHIBOLE DETECTED.

EMSL Analytical, Inc.
107 West 4th Street, Libby, MT 59923
Phone: (406) 293-9066 Fax: Email: mobileasbestoslab@emsl.com

Attn: **Scott Carney**
EMR, Inc.
11 East Superior Street
Suite 260
Duluth, MN 55802

Fax: (218) 625-2337 Phone: (218) 625-2332
Project: **9329-002**
Samples collected 5/7/2010

Customer ID: EMRI78
Customer PO:
Received: 05/12/10 11:30 AM
EMSL Order: 271000233

EMSL Proj: BNSF 2010
Analysis Date: 5/17/2010

Sampling Date: 5/7/2010

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by EPA 40 CFR Part 763 Appendix A to Subpart E

Sample	*Location*	*Volume (Liters)*	*Area Analyzed (mm^2)*	*Non Asb*	*Asbestos Type(s)*	*# Structures* ≥ 0.5μ < 5μ	*# Structures* ≥5μ	*Analytical Sensitivity (S/cc)*	*Asbestos Concentration (S/mm^2)*	*Asbestos Concentration (S/cc)*
050710-1 *271000233-0001*		3901.00	0.0520		None Detected			0.0019	**<19.00**	**<0.0019**
050710-2 *271000233-0002*		3441.00			Overloaded					
P3 *271000233-0003*		1296.00			Overloaded					

Analyst(s)

Ron Mahoney (3)

R. K. Mahoney, Laboratory Manager
or other approved signatory

The laboratory is not responsible for data reported in structures/cc, which is dependent on volume collected by non-laboratory personnel. This lab is only responsible for data reported in structures/mm^2. This report may not be reproduced, except in full, without written approval by EMSL. This report must not be used to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the samples reported above. Quality control data (including 95% confidence limits and laboratory and analysts' accuracy and precision) is available upon request. As per 40 CFR 763, the initial screening test may not be applied to samples with collected volumes of <1200 liters. The test results contained within this report meet the requirements of NELAC unless otherwise noted. Samples received in good condition unless otherwise noted.

Samples analyzed by EMSL Analytical, Inc. 107 West 4th Street, LibbyMT NVLAP Lab Code 200745-0

EMSL Analytical, Inc.
107 West 4th Street, Libby, MT 59923
Phone: (406) 293-9066 Fax: Email: mobileasbestoslab@emsl.com

Attn: **Scott Carney**
EMR, Inc.
11 East Superior Street
Suite 260
Duluth, MN 55802

Fax: (218) 625-2337 Phone: (218) 625-2332

Project: **9329-002**
Samples collected 5/7/2010

Customer ID: EMRI78
Customer PO:
Received: 05/12/10 11:30 AM
EMSL Order: 271000233

EMSL Proj: BNSF 2010
Analysis Date: 5/17/2010

Sampling Date: 5/7/2010

Test Report: Asbestos Fiber Analysis by Transmission Electron Microscopy (TEM) Performed by AHERA -EPA 40 CFR Part 763 Appendix A to Subpart E (Modified for Indirect Prep)

Sample	Location	Volume (Liters)	Area Analyzed (mm^2)	Non Asb	Asbestos Type(s)	# Structures ≥ 0.5μ < 5μ	# Structures ≥5μ	Analytical Sensitivity (S/cc)	Total Asbestos Concentration (S/mm^2)	Total Asbestos Concentration (S/cc)
050710-2 *271000233-0002*		3441.00	0.1300		None Detected			0.0080	**<72.00**	**<0.0080**
P3 *271000233-0003*		1296.00	0.1300		None Detected			0.0210	**<72.00**	**<0.0210**

Analyst(s)

Ron Mahoney (2)

R. K. Mahoney, Laboratory Manager
or other approved signatory

EMSL27 INDIRECT PREPARATION RECORD

EMSL Analytical Inc., Libby, MT

Order ID: 271000233 **Date:** 5/13/10

Circle One: TEM Air TEM Dust TEM Wipes PCM **EFA:** 360 mm² **Prepared By:** DB

Sample #	Loose Material	Ashed Samples Resuspension with Ashing			Non-Ashed Samples Resuspension without Ashing			Serial Dilution Filtration 2nd resuspension			Serial Dilution Filtration 3rd resuspension			Prepared for Analysis
		Filter Fraction	Resuspended volume	Vol. applied to filter	Filter Fraction	Resuspended volume	Vol. applied to filter	Vol. of 1st resuspension used	Resuspend volume	Vol. applied to filter	Vol of 2nd resuspension used	Resuspend volume	Vol. applied to filter	
	Y/N	fraction	mL	mL	fraction	mL	mL	mL	mL	mL	mL	mL	mL	Y/N
050710-2	Y				1	100	10							Y
							15							N
							25							N
							50							N
P3	Y				1	100	10							Y
							15							N
							25							N
							50							N
FB							100							Y

Locally Controlled Document
Confidential Business Information/Property of EMSL Analytical, Inc

001570